Russia CP

NEGATIVE

1NC 2

Solvency- General 3

Russia solves better then the US 8

Solvency: Technology (1/2) 9

Solvency: Technology (1/2) 10

Supplement: Russian Aerospace DA 11

AT: International Fiat Bad 12

AFFIRMATIVE

No Solvency 13

Perm 14

1NC

CP TEXT: THE RUSSIAN FEDERATION SHOULD \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MUTUALLY EXCLUSIVE: THE COUNTERPLAN IS COMPETITIVE THROUGH NET BENEFITS

SOLVENCY:

1. Russian space programs and technology are growing now

Weir 7/19 (Weir, Fred, CSM Correspondent. “Russian telescope launch pulls national space program out of black hole.” July 19, 2011.

<http://www.csmonitor.com/World/Europe/2011/0719/Russian-telescope-launch-pulls-national-space-program-out-of-black-hole>)

Russian scientists are jubilant at news that the Spektr-R, a powerful space telescope conceived in the depths of the cold war, was finally lofted into orbit aboard a Zenit rocket Monday from the Baikonur Cosmodrome in Kazakhstan.

The Zenit - 3F carrier rocket with the Spektr-R radio astronomy observatory aboard takes off from the Bakinour Cosmodrome.

Once it is fully operational, the new radio telescope will sync up with ground-based observatories to form the biggest telescope ever built. It will be known as RadioAstron, with a "dish" spanning 30 times the Earth's diameter. Experts say it will be able to deliver images from the remote corners of the universe at 10,000 times the resolution of the US Hubble Space Telescope.

"We've been waiting for this day for such a long time," says Nikolai Podorvanyuk, a researcher at the official Institute of Astronomy in Moscow.

"It's been planned since the 1980s, but has repeatedly fallen through for a variety of reasons. But now it's here, and we're bracing for all the new information it's going to deliver, especially about black holes," he says.

The space-based component is actually a small radio telescope, with a 10-meter dish that's far smaller than Earth-based radio telescopes, planted in an elliptical orbit about 340,000 kilometers (more than 212,000 miles) from Earth. But when its signals are combined with those of ground-based radio telescopes through a process known as interferometry, it effectively becomes one single telescope with a "dish" as large as the distance between its components, which will be able to deliver unprecedented pictures of mysterious cosmic phenomenon, such as quasars, pulsars, and supernovae.

According to its co-designer, Russian astrophysicist Nikolai Kardashev, one of RadioAstron's key objectives will be to seek out the truth about black holes, which are intense concentrations of matter thought to exist in the centers of most galaxies with gravity so powerful they even swallow up light signals.

"Building this telescope was Academician Kardashev's idea," to enable us to actually see what's happening around the edges of black holes, says Vladimir Fortov, director of the official Institute of Thermophysics in Moscow.

"This is going to open up a whole new era in astronomy and astrophysics," he says. "It's a huge contribution to world science. Russia has held advanced positions traditionally, and this is a logical next step for our space program. It's just great."

Solvency- General

The Russian Space Program is growing now, they can solve for the aff plan

Weir 7/19 (Weir, Fred, CSM Correspondent. “Russian telescope launch pulls national space program out of black hole.” July 19, 2011.

<http://www.csmonitor.com/World/Europe/2011/0719/Russian-telescope-launch-pulls-national-space-program-out-of-black-hole>)

Russia's space program fell on hard times after the collapse of the USSR 20 years ago, and even a few years ago appeared to be little more than a "space taxi" to ferry astronauts to and from the International Space Station.

But with increased funding and improving morale, Russian space scientists now have a variety of ambitious projects on the agenda. They include a manned mission to Mars by 2030, a space plane to rival the US X-37B, and a nuclear-powered spacepod that could gobble up space junk like an orbiting Pac-Man.

Despite some very serious recent setbacks, Russia's answer to the US Global Positioning System (GPS) navigational network, Glonass, is slated to be fully operational by the end of this year. In November, Russia will finally launch its long-awaited Phobos-Grunt probe, which aims to bring home a soil sample from the Martian moon Phobos.

Russia can work with private industry to get to space

Modern Russia 11 (Managed by Ketchum on behalf of the Russian Federation. “Gagarin’s first flight continues to propel Russian space program.” April 11, 2011. <http://www.modernrussia.com/content/gagarins-first-flight-continues-propel-russian-space-program>)

The Russian space program has come a long way since Gagarin’s flight, branching out into the commercial sector in private satellite launches and space tourism. Roscosmos – the Russian Federal Space Agency – now partners with its American and European counterparts on a number of initiatives. Private Russian companies work with international and domestic partners to further expand the country’s space industry, and that cooperation looks likely to only grow in the coming decades.

Russia has sufficient space capabilities to colonize the moon or mars and enact the CP

Will **Stewart** July 3, 20**11** Astronaut. RUSSIA wants to colonise space in the next two decades with a full-time base on the Moon under plans driven by Vladimir Putin.Enhanced Coverage LinkingVladimir Putin. -Search using: Biographies Plus News News, Most Recent 60 Days (Man on the Moonski) {Russia plans permanent lunar home} FEATURES; Pg. 42,43 Sunday Express

The president is showing keen interest in scientific and economic exploitation of outer space and has increased Russia's space programme budget tenfold since being elected in 2000.

His advisers now routinely call the Moon the "seventh continent", a term originally coined by Nazi rocket scientist Krafft Ehricke, who commanded tanks in Hitler's attack on Moscow.

Mr Putin's dream of a lunar "hotel" followed by a more permanent home could have far more significance in the long term than Moscow's much-heralded plans to send a manned mission to Mars in the 2030s. Just as Russia is actively planning to control and exploit a vast chunk of Arctic mineral wealth, Mr Putin has an eye on the potential financial rewards of dominating in the race to colonise the Moon.

He told a recent seminar: "We perform 40 per cent of space launches and we can increase it by five or even 10 per cent.

"The global world space market is worth 200billion US dollars (£125billion). It is great business.

"But we should not see our role only as an international ferryman. We must enlarge our presence."

The Kremlin plans, details of which emerged last week, recall a famous Cold War propaganda headline following the landing of unmanned Luna 9 in 1966: "The Moon speaks Russian."

While Russia has been recently associated with space tourism, in part to fund its cosmos programme, the new accent is on the potential economic benefits to the motherland from the Moon.

Manned Russian flights to the Moon are scheduled by the end of this decade, in competition with China. However, this is only the start of a 12-year Russian lunar exploration programme beginning in 2025.

It would begin with an "orbital station", capable of housing four cosmonauts, by 2026.

Early construction of a Moon hotel will enable two week-long manned visits by a succession of crews by 2030.

Just five years later a permanent lunar base is planned. According to one source, it "will help start using lunar resources and prepare for industrial use of natural treasures of Earth's natural satellite". A key driving force behind Putin's dream is for Russia to get its hands on supplies of helium-3, a potentially hugely valuable source of energy. The Moon base is also seen as critical to a 60-year plan to explore other planets.

Leading space technologist Gennady Raikunov, head of the Russian Central Scientific and Research Engineering Institute, said at the recent Paris Air Show: "Certainly it would be very interesting to fly to Jupiter or Mars, but that would be an adventurous step because we have not tested many technologies, including the one to protect astronauts from radiation.

"New technologies must be tested, and the Moon is the best testing range."

He stressed: "It is possible to bring a sick crew member back from the Moon for surgery and to supply cargo within several days. The Moon is the base for testing prospective technologies, it is very interesting for us from this point of view." The Moon is also an ideal place for deploying telescopes or radar stations and conducting astrophysical and astronomic research, he said.

At the earlier seminar, at his Novo Ogaryovo residence near Moscow in April, President Putin asked: "Is it true that the Moon is a fragment of the Earth?" He was told by Lev Zeleny, director of the Russian Space Research Institute: "Exactly, the Moon is the historical seventh continent of the Earth.

"About one billion years ago a small planet of Mars size hit the Earth and tore part of our planet away. The Pacific Ocean is the place where the Earth was hit and the Earth's fragment became the Moon."

Zeleny warned Mr Putin there are limited sites for the first base on the Moon because of its inhospitable terrain, where night temperatures make Siberia seem warm. Russia is examining sites near the Moon's north pole.

"There are not that many good places for a base. Fingers of one hand are enough to count such good places, and there will be competition for sure," he said, urging Mr Putin to act ahead of China, the US and Europe.

In an expansion of its space programme, Russia is now planning a new generation of manned space vehicles, cargo spaceships, a lunar orbital station and lunar base module.

While ambitious, Russia's space budget is still a fraction of that spent by Nasa in the US. The old Nazi rocket scientist Mr Ehricke was behind America's Moon plans too. After the war he was given work by the Americans.

NASA is suing former astronaut Edgar Mitchell to get back a camera that went to the moon on the Apollo 14 mission.

The lawsuit filed in a Florida court claims Mitchell recently tried to sell the 16mm camera at auction. Nasa says there is no record that the device was ever transferred to Mitchell and it wants it back.

Mitchell became the sixth person to walk on the moon during the 1971 mission. He now lives in Lake Worth, Florida, but a phone number listed for him is disconnected.

Russia now has the capability to go to space

MODERN RUSSIA 2011 (Managed by Ketchum on behalf of the Russian Federation. “Gagarin’s first flight continues to propel Russian space program.” April 11, 2011. <http://www.modernrussia.com/content/gagarins-first-flight-continues-propel-russian-space-program>)

The Russian space program has come a long way since Gagarin’s flight, branching out i On April 12, 1961, Yuri Gagarin was the first man to travel into outer space. Fifty years later, Russia’s space industry has come a long way from that initial 89-minute voyage. Through constant innovation, the Russianspace program has grown from performing scientific experiments, to servicing the space station Mir, and nowto commercial satellite launches and space tourism. Below are some key facts about this industry, which is akey driver of innovation for Russia and the world. A G LOBAL L EADER IN S PACE Outer space has remained a preeminent focus in Russia, regardless of the economic situation.Vladimir Putin told the Russian space program leaders in July 2010: “The space rocket field has been one of the state's priorities since its inception. Space has always occupied a special place for us, and Ihope it will continue to do so. And so, despite the difficulties we face because of the downturn, thespace sector received all the money originally allocated, in accordance with the approved programs. ” Speaking with the crew of the International Space Station last year, PresidentDmitry Medvedev emph asized “ that space is one of our five big national technological modernisation priorities. This sums up completely the importance we place on (it).” On April 5, 2011, Mr. Putin’s spokesman, Dmitry Peskov, told Bloomberg “We are increasing the spacebudget as the time has come for a technological breakthrough”, adding that, “We need to replace outdated infrastructure and continue to sup port the flagship status of the space industry.” According to the 2011 launch schedule,50 Russian spacecraft will be launched, and a federal program for the management of the GLONASS navigation system – the Russian equivalent of the GPS system- will be adopted.Russia has become the global leader in space launches, sending a total of 31 successful spacemissions in 2010, compared with 16 by the U.S. Russia ranks fourth in terms of funding of civil space activity, after the U.S., Europe and China. K EY P LAYERS Roscosmos:The Russian space program has undergone vast changes since a2004 initiative that allocated more money for space exploration and development. The agency is now halfway through theFederal Space Plan 2006-15.The program allocated $8 billion over ten years for space programs, withadditional funds being supplemented for military and GLONASS systems. The plan also provides for70 non-military craft to be put in orbit by 2015. As part of the Space and Telecoms working group ofthe Presidential commission on Modernization and Technological Development of the Russianeconomy, Roscosmos is implementing a number of projects, including an emergency response systemfor potential problems with the ERA GLONASS system, and creating a complete production cycle for anew generation of solar panels.

Russia can solve for the aff plan- Laundry List

Zimmerman 05 (Robert, space historian, “Space Watch: The Russians Are Coming,” Jan 28, 2005. Space Daily, <http://www.spacedaily.com/news/oped-05r.html>)

Think again. The future of space in the next decade could just as easily be dominated by a resurgent Russian space industry, innovative and efficient, with the ability to provide quality service to its customers at a low cost. After the fall of the Soviet Union in 1991, the Russian space program was the first business to face reality and shift gears, quickly adopting capitalistic and market-oriented techniques for making a profit. Almost immediately, advertisements plastered the walls of mission control in Moscow as well as the sides of Russian rockets. Russian cosmonauts taped commercials in orbit, and the space program sold tickets to Mir to television stations, entertainment consortiums and foreign governments -- including the United States. That effort eventually produced paid flights to the International Space Station by well-heeled tourists such as Dennis Tito. Because of an extremely favorable exchange rate leftover from their failed communist economy, Russian labor costs were significantly lower than those in the West, allowing them to charge significantly less than anyone else. Moreover, rocketry was one of the few Russian industries with a good reputation for high quality standards. Russia's space program soon became by far the country's most successful export product. By 2000, it had grabbed a significant share of the private commercial launch market with its Proton, Dnepr, Zenit and Soyuz rockets, and by last year it was so successful its rockets launched more than 45 percent of all spacecraft, more than any other nation and 50 percent more than the U.S. market share. The future looks even brighter. Last week, Roskosmos, the Russian space agency, signed a long-term agreement with the European Space Agency to allow Russia to establish Soyuz rocket-launch facilities at ESA's spaceport in Kourou, French Guiana. Because Kourou is closer to the equator than either Baikonur or Plesetsk -- the two launch pads from which the Soyuz rocket family is presently fitted to fly -- it will allow Soyuz nearly to double the payload it can lift to geosynchronous orbit, from 1.7 tons to 3 tons. At the same time, the Russians continue to hold the whip hand in their negotiations with NASA over shuttling crews and providing lifeboat services to the space station. The next agreement between the two nations likely will give the Russians even more opportunities to sell tourist tickets each time they send a Soyuz to the ISS, a flexibility that will also "increase launch orders for our space industry," noted Roskosmos chief Anatolii Perminov at a news conference. With such encouraging business prospects, it is not surprising the company that builds the Soyuz rocket family boosted its planned production for 2005 by 50 percent -- from 10 rockets to 15. Moreover, Roskosmos already has announced that, in the first three months of 2005 alone, seven Russian launches will put eight satellites in orbit, a launch rate far exceeding anyone else's. Even as they are solidifying their domination in the launch industry for both manned and unmanned missions, the Russian government seems firmly committed to complete the Russian half of the space station by 2011, with plans to launch a new laboratory module by 2007, a power and science platform by 2009 and a second laboratory module by 2011. The Russians also appear to be moving forward aggressively with their next-generation manned spacecraft. Roskosmos first announced it was beginning work on this new vehicle, dubbed Clipper, shortly after President George W. Bush unveiled his space initiative on Jan. 14, 2004. In the year that followed -- while NASA could barely write the first draft of its Request for Proposals describing what it required for its shuttle replacement -- RSC Energia, the Russian space company, completed a preliminary design as well as a full-scale model, unveiling it last Dec. 1. Not only is this six-seat manned spacecraft intended to be reusable, but one design option also will have it land on a runway like the space shuttle. Furthermore, Energia officials said if funded they could have it built and flying by 2010. Topping all this, a number of Russian government and industry officials have expressed guarded optimism their country will mount its own effort to send humans to Mars, sometime around 2015. Nor has this overview m entioned pending launches in 2005 on Russian rockets of cutting-edge solar-sail and space-mirror technologies. Obviously, it would be a mistake to assume the Russians have no problems at all. For example, Clipper's funding situation remains unclear. Though RSC Energia officials said they could complete a fleet of four Clippers by 2010, the Russian government seems more inclined to stretch out its development until 2015. Moreover, unlike George Bush, Russian President Vladimir Putin has made no commitment to any large space effort, including sending Russians to Mars. Nonetheless, the Russian space industry's future appears rosy.

Space is a priority for Russian Government

Modern Russia 11 (Managed by Ketchum on behalf of the Russian Federation. “Gagarin’s first flight continues to propel Russian space program.” April 11, 2011. <http://www.modernrussia.com/content/gagarins-first-flight-continues-propel-russian-space-program>)

Outer space has remained a preeminent focus in Russia, regardless of the economic situation.Vladimir Putin told the Russian space program leaders in July 2010:

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Russia solves better then the US

Russia solves better than the US

Smith Wilson 09 (Tabitha and Wilson, School of Russian and Asian studies, “Russia in Space”, 9/29/09, http://www.sras.org/russia\_in\_space NEH)

Beyond the realm of radio astronomy, funding for Russia's space projects has boomed in recent years. As political and military analysts have talked about a "resurgent Russia" pushing its policy objectives on the back of rising oil prices, so too has Russia's space program been resurgent, striving to initiate and lead more projects on its own and with less assistance from NASA or the European Space Agency. Russia's Federal Space Agency (which is often known by the shortened name Roscosmos) has set short-term (2015-2020) and long-term goals (2020-2040). Source for both graphs: Roscosmos.ru Anatoly Perminov, the current head of Roscosmos, has stated that industries focused on building space vehicles and equipment are actually seeing growth during the economic crisis and that Roscosmos is continuing to implement its ambitious projects. Short-term plans include the Russian Virtual Observatory, an effort to digitize and connect the various scientific databases in the countries of the former Soviet Union, and the OSIRIS project, a space telescope which would allow the locations of stars to be measured to far greater accuracy than they are today. Russia and India also hope to launch a joint project to search for water on the moon. The space agencies believe that there may be water on the Moon because it is believed that the Moon was formed from material from Earth after Earth was struck by a meteor. Any material present on Earth could have been transferred to the Moon. That water molecules exist on the Moon's surface has been confirmed by multiple space agencies. Although water in a form that would be usable by humans has not been found (such as deposits of ice), nobody has ruled out the possibility that it may exist. If there is water on the moon, this would help advance what is the centerpiece of Russia's long-term space projects of placing humans in space for long-term missions and far-reaching exploration.

The Russian Government is the most cost effective and safest

Boyle 05 (Alan, science editor for msnbc.com, “Russia Thriving Again on the Final Frontier,” Sep 29, 2005. http://www.msnbc.msn.com/id/9509254/ns/technology\_and\_science-space/t/russia-thriving-again-final-frontier/ )

What a difference four years makes: In 2001, when Mir plunged out of orbit, it looked as if Russia's space program was going down with it , scraping by on a budget of less than $200 million a year. Today, boosted by Russia's oil revenue, the government has committed to a 10-year plan for space exploration, funded to the tune of $1 billion a year. That's far less than the price tag for NASA's 13-year, $104 billion plan to return to the moon. But while America's space effort is struggling with safety issues and tight budgets, Russia is now seen as having the world's safest, most cost-effective human spaceflight system. Like NASA, the Russians plan to develop a new breed of spaceship: a winged craft called the Kliper, capable of carrying a crew of six and built in partnership with the European Space Agency. Like NASA, the Russians plan to work toward lunar landings in the latter half of the next decade, leading to the establishment of permanent moon bases as steppingstones to Mars and beyond. Unlike NASA, the Russians plan to keep selling tickets to space, seeing it as a way to boost both budgets and public perception of the space program. Their goals are ambitious here as well, with plans to sell a trip around the moon for $100 million a seat . Of course, the Russian space effort has never suffered from a shortage of grand plans. Among the ideas floated in the past are the Enterprise commercial space module, the free-flying Mini Station 1, the Marpost spacecraft for Martian exploration and yet another bargain-basement Mars mission . Nothing ever came of any of these. "There are many more plans available than money," Karash observed. This time, however, Russia's plans sound more ... well, down to earth. Nikolai Sevastianov, the president and general designer of Russia's Energia rocket company, outlined for MSNBC.com a development program that for the most part builds on tried-and-true hardware design. Energia, the Russian space industry's equivalent of the Boeing Co. and Lockheed Martin Corp., is heavily involved in the space station construction. "We are planning to build three additional modules which will be part of the ISS,” Sevastianov said, estimating that the Russian side of the station could be complete in 2011. He said Russia's 10-year space roadmap called for an expansion of satellite operations, drawing upon commercial as well as state funding. New lines of launch vehicles, such as the Angara rocket, would take their place alongside an upgraded version of the Soyuz rocket, Russia’s traditional launcher for manned spaceflight.

Solvency: Technology (1/2)

Russia is building for success

CSIS, 11

(center for strategic and international studies, strategic insights and bipartisan policy solutions, <http://csis.org/blog/russias-new-space-odyssey>

“Poyekhali!”1 Yuri Gagarin famously shouted over the roar of the Vostok-1 spacecraft as he made history on April 12, 1961 by becoming the first human to voyage into outer space. The Soviet space industry during the latter half of the twentieth century was of an elite caliber, perpetually neck-and-neck with that of the United States. However, following the dissolution of the Soviet Union, its primary successor state, Russia, has witnessed the decline of the once mighty space program. Now, fifty years after Yuri Gagarin’s historic journey, Russia has reprioritized its space industry with a steadily increasing budget and ambitious projects. Indeed, Russia is in a position to once again take a leading role in space research, technology, and exploration. SHRINKING THE BUDGET GAP Throughout the 2000s, the annual budget for Russia’s Federal Space Agency, Roscosmos, grew at a steady rate. Despite the global financial crisis which had the countries of the world tightening their fiscal belts, surprisingly, Roscosmos’ budget nearly [doubled](http://www.novosti-kosmonavtiki.ru/content/numbers/325/27.shtml) from 2008 to 2009 (the height of the crisis). This year, [115 billion rubles](http://en.rian.ru/russia/20110111/162102586.html) ($3.8 billion) have been allocated for Russia’s national space programs. While the United States’ National Aeronautics and Space Administration’s (NASA) 2011 budget is substantially greater at [$18.7 billion](http://www.nasa.gov/pdf/420990main_FY_201_%20Budget_Overview_1_Feb_2010.pdf), Anatoly Perminov, Director of Roscosmos, [points out](http://www.russiandefenseblog.org/?p=1829) that “[the gap] is not growing but decreasing. About two or three years ago NASA’s budget was 17-18 times that of Roscosmos. Now…it is seven to eight times.” In fact, according to *[Interfax](http://www.interfax.co.uk/russia-cis-general-news-bulletins-in-english/russia-did-twice-as-many-space-launches-as-u-s-in-2010/)*, Russia conducted twice as many space launches as did the U.S. in 2010. Currently, budget battles on Capitol Hill have led the House Appropriations Committee to propose legislation that would [cut](http://www.spacetoday.net/Summary/5190) NASA’s budget by $579 million; meanwhile, Russia has no intention of putting on the brakes regarding its revived space program. In fact, it is looking forward to taking full advantage of NASA’s reliance on Russian Soyuz spacecraft for trips to the International Space Station (ISS) over the next four to five years. RUSSIA IN THE DRIVER’S SEAT This spring NASA will be retiring its thirty year old fleet of space shuttles (Discovery, Endeavor, and Atlantis) in an effort to free up funds to invest in domestic [commercial companies](http://www.msnbc.msn.com/id/42079495/ns/technology_and_science-space/) such as [Space Exploration Technologies](http://www.spacex.com/press.php?page=20110223) (SpaceX), and [Orbital Sciences Corp.](http://www.orbital.com/About/), based in California and Virginia respectively. It is expected that the private sector will soon dominate the market for near-Earth space travel because of cost effectiveness and innovation. Elon Musk, SpaceX CEO and Chief Technology Officer [explains](http://www.spacex.com/press.php?page=20110223) that “[SpaceX’s] Dragon spacecraft is capable of carrying the same number of astronauts as the Space Shuttle at one tenth of the cost. It will also be much safer due to technological improvements such as a launch escape system, automatic stability on reentry, and a far more robust heat shield.” The Director of NASA, Charles Bolden, [concurs](http://www.msnbc.msn.com/id/42079495/ns/technology_and_science-space/) with the decision to move towards private contractors, citing that “this new approach…will create good jobs and expand opportunities for our American economy.” However, commercially built spacecrafts designed to carry humans will not be made available until mid-decade at the earliest. In the interim, the U.S., as previously mentioned, will rely on the increasingly pricy Russian Soyuz spacecraft to ferry astronauts back and forth to and from the ISS. The new [contract](http://www.msnbc.msn.com/id/42079495/ns/technology_and_science-space/) allows for twelve U.S. astronauts on board of Soyuz spacecrafts from 2014 to 2016 for the hefty price of $753 million. This contract is an extension of a previous deal for six round trips to the ISS from 2013-2014. The price per seat has gone up by $7 million between contracts and has [doubled](http://www.worldpoliticsreview.com/articles/7300/the-u-s-russia-space-relationship-and-future-space-security) the current price, but the lack of alternatives leaves the U.S. without much elbow room in negotiations. Meanwhile, U.S. concerns over the reliability of Russia’s space hardware have been growing. The next launch, scheduled to take two Russians and one American to the ISS, has been [delayed](http://news.xinhuanet.com/english2010/sci/2011-03/14/c_13778387.htm) two weeks due to technical problems with the spacecraft’s communications system. The U.S. should get used to these kinds of [frustrations](http://en.rian.ru/analysis/20080515/107469026.html) due to the fact that Russia has not been vigilant to update their space-rocket industry and, as a result, the life-expectancy of over 80 percent of its production equipment has already expired. WITH GLONASS COMES CREDIBILITY For those who view Russia’s space program as a mere “[rocket taxi service](http://www.csmonitor.com/World/Europe/2010/1206/Russia-s-2-billion-project-to-rival-America-s-GPS-suffers-setback)”—a relic of its former glory—by the end of this year, Russia will finally complete the Soviet Union’s most ambitious (and expensive) space project. [GLONASS](http://www.glonass-center.ru/pls/htmldb/f?p=201:1:587293851652198) (Global'naya Navigatsionnaya Sputnikovaya Sistema or Global Navigation Satellite System) was a Soviet-initiated project begun in 1976 which by the mid-1990s had fallen to the wayside. In the first years of Vladimir Putin’s tenure as president, work began to reprieve GLONASS with updates for the twenty-first century. The new GLONASS is intended for both military and civilian use and will compete with rival satellite positioning systems such as GPS (United States), Galileo (European Union), and Compass (China). Russia’s national navigation system suffered many [setbacks](http://news.xinhuanet.com/english2010/sci/2011-02/28/c_13754499.htm) in recent years due to foolish mistakes, but Roscosmos is confident that there will be 100 percent coverage by the end of this year. Currently 22 operational GLONASS satellites (out of 26 total) orbiting the Earth cover [99 percent](http://english.ruvr.ru/2011/03/05/46981191.html) of the planet. The achievement is already sparking new possibilities within the realms of business and security.

<card continues>

Solvency: Technology (1/2)

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Russia's largest telecommunication provider, OAO Mobile Telesystems, has been advertising the country's first [smart phone](http://www.themoscowtimes.com/business/article/glonass-smartphones-coming-in-april/431155.html) with the ability to access GLONASS navigation capabilities which will go on sale this April; meanwhile a special program called “[Safe Sochi](http://english.ruvr.ru/2011/03/14/47393926.html)” will rely on GLONASS for its security surveillance operations during 2014’s Winter Olympic Games at the doorstep of Russia’s most [volatile region](http://csis.org/program/north-caucasus-project). The completion of GLONASS, however, should be viewed, above all else, as a symbolic act. PUSHING THE ENVELOPE In this decade Russia is looking to take on a leading role in the international arena, as exemplified by their playing host to a number of the world’s most sought after events, namely, the World Cup and the Olympic Games. It’s no secret that Russia intends to use the public eye to highlight their incredible achievements since the collapse of the Soviet Union, and the resurrection of their space program will be at the forefront of that list. Russia is mulling over the possibility of sending the [Olympic flame](http://www.google.com/hostednews/afp/article/ALeqM5g0FOQIEPNXKhIHcODM3zMDbw8RBw?docId=CNG.f53933e3820d7b7224b41100056dd28f.6c1) (a torch which travels around the world before stopping at the host city to mark the start of the games) into space – a novel proposal, and one that would make a bold statement about the clear path that a resurgent Russia is on. Recently Russia has revealed its [space strategy](http://www.interfax.com/newsinf.asp?y=2011&m=3&d=2&pg=5&id=226037) up to the year 2035 which details plans for exploration and development of the Moon, Mars, and projects in deep space, as well as a new launch site to be built in Eastern Russia (Vostochniy Cosmodrome), and an all-Russian space station in low-Earth orbit to replace the ISS after the end of its operation in 2020. While logistically speaking manned-missions to the Moon and Mars are still some years away for Russia, they are not wasting any time in preparation. An elaborate experiment is currently underway to test, as accurately as possible, the psychological and physiological strains of a voyage to deep space. [Mars500](http://www.msnbc.msn.com/id/41581968/ns/technology_and_science-space/), as it is dubbed, is a [$15 million](http://www.space.com/11011-mock-mars-mission-leaves-red-planet.html) collaborative effort of Russia, China, and the EU to simulate a manned round-trip mission to Mars. Six male crewmembers have been locked in a 1,720-square-foot windowless mock space shuttle located on the outskirts of Moscow for the duration of 520 days with limited contact to the outside world. The simulation is sure to break down some barriers on what is possible concerning the capabilities for manned deep space travel, and could potentially spark a space race for the red planet. [Infographic courtesy of [Space.com](http://www.space.com/)] CONCLUSION Russia’s space program in recent years has been given a breath of new life. This new decade, and in particular the next four to five years, will be a critical timeframe for Roscosmos. The retirement of the American fleet of space shuttles will leave a void, and Russia can use this opportunity to step up and take a leading role in the international space arena, not to mention the profits they will rake in by monopolizing the market for near-Earth space travel. That is not to say that Russia should simply use this time to capitalize on the favorable supply/demand situation, but use it wisely to invest back into their rocket-space industry and build partnerships with up-and-coming space powers such as India and China so as to aid research and development and remain competitive for the future. The completion of GLONASS by the end of 2011 is certainly as symbolic an accomplishment as it is a strategic one for Russia, and though they have restored some of their lost grandeur, Roscosmos still has a lot to prove. But Russia’s space program is surely on its way forward as true pioneers of mankind’s final frontier.

Supplement: Russian Aerospace DA

Russian aerospace is key to deterrence

BBC Monitoring Former 2005 Political Supplied by BBC Worldwide Monitoring Text of report by Russian news agency ITAR-TASS

http://www.lexisnexis.com/hottopics/lnacademic/?

Moscow, 13 April: In Russia "virtually all the main elements of aerospace defence have already been set up and are functioning", Air Force Chief of Staff Col-Gen Boris Cheltsov has said. The further development of aerospace defence "should be implemented along the line of integration of disparate elements into a unified system of aerospace defence of the Russian Federation, comprising systems of intelligence, aerospace attack warning, missile and space defence, air defence and command," Cheltsov said in an interview carried in today's edition of the Military-Industrial Courier Russian: Voyenno-promyshlennyy kuryerweekly.However, he said, "the aerospace defence system will be one of the main factors deterring regional wars and preventing their escalation into a large-scale or world war". In his opinion, in order to counter potential threats and increase the effectiveness of battle against existing and prospective aerospace attack weapons, it is necessary to ensure the integration of all information and firing systems under a single leadership. Cheltsov thinks that technically linking elements of the aerospace defence system is not going to create great difficulties. "In the current complex economic conditions, the greatest difficulty is presented by the issue of determining a source of funding, sorting out and carrying out real measures on the basis of the management-by-objectives method of planning to improve the air defence system and create an aerospace defence system for Russia," Cheltsov said.

AT: International Fiat Bad

International fiat is okay:

1. Tests USFG—the aff should have to defend their agent—allows for more interesting net benefits and solvency differentials.
2. Counter-interp—we can fiat either Russia or the US—solves their limtis claim
3. No infinite regress:
4. Lit checks—no one advocates foreign action unless it’s relevant
5. Justification claims are arbitrary—it’s only reasonable to evaluate whether our strategy is unfair

No Solvency

There are many flaws in the Russian space program including low productivity and lack of tech that tank the CP’s solvency

Weir 7/19 (Weir, Fred, CSM Correspondent. “Russian telescope launch pulls national space program out of black hole.” July 19, 2011.

<http://www.csmonitor.com/World/Europe/2011/0719/Russian-telescope-launch-pulls-national-space-program-out-of-black-hole>)

And with the end of the US space shuttle program, even Russia's traditional space niche of powerful rocket launchers and venerable Soyuz space vehicles is set to become the only game in town.

"Russia is returning to scientific programs in space after a long break," Vladimir Popovkin, chief of the Russian space agency Roskosmos, was quoted as saying by the official Itar-TASS agency Monday.

But despite all this good news, some space experts strike a cautionary note.

"The old problems of Russian space industries are still with us: low productivity and lack of technical discipline," says independent expert Andrei Ionin. "There could be lots of problems in future.

"Still, this is a great moment. Our people can raise their heads and be proud," he adds.

Perm

Perm: Do Both

Cooperation is normal means: Russia and US can both work in space

BBC Monitoring 2008 (Political Supplied by BBC Worldwide Monitoring Text of report by Russian news agency ITAR-TASS

http://www.lexisnexis.com/hottopics/lnacademic/?)

The strategic goal of cooperation regarding exports of the domestic aerospace industry products is to launch Russian technology segments into the image of aerospace equipment, as formed by foreign partners, Russian Deputy Prime Minister Sergey Ivanov said at a meeting of the government commission on export control on Tuesday [27 May]."We must keep advanced and competitive technological developments, and the transfer of technologies to foreign partner is only possible on a licensing basis. It is this approach that will allow for creating all the necessary conditions for long-term mutually advantageous cooperation," Ivanov said.In the course of the Tuesday meeting, the commission considered cooperation in the aerospace industry between Russian organizations and South Korea, as well as its development prospects."I wish to note that the development of international cooperation with foreign states in general, in the sphere of peaceful space exploration, is a priority guideline of the general strategy of Russia's aerospace policy," Ivanov went on to say.Russia has unique technologies to create spacecraft, modern booster rockets and powerful rocket engines."In effect, it's our national heritage, created by many generations of Russian scientists, designers and engineers, which requires careful handling and further development," Ivanov said.Cooperation should be carried out not just on mutually advantageous basis, but also within a strictly defined framework, meeting the interests of defence security and Russia's political and economic priorities, and also in line with Russia's international commitments in the field of export control."Coordinated inter-departmental interaction and reliable control over supplies of technologies and other products of the aerospace industry should play the key role here," the deputy prime minister said.This applies to aerospace cooperation not only with South Korea, but also with other states, he added.